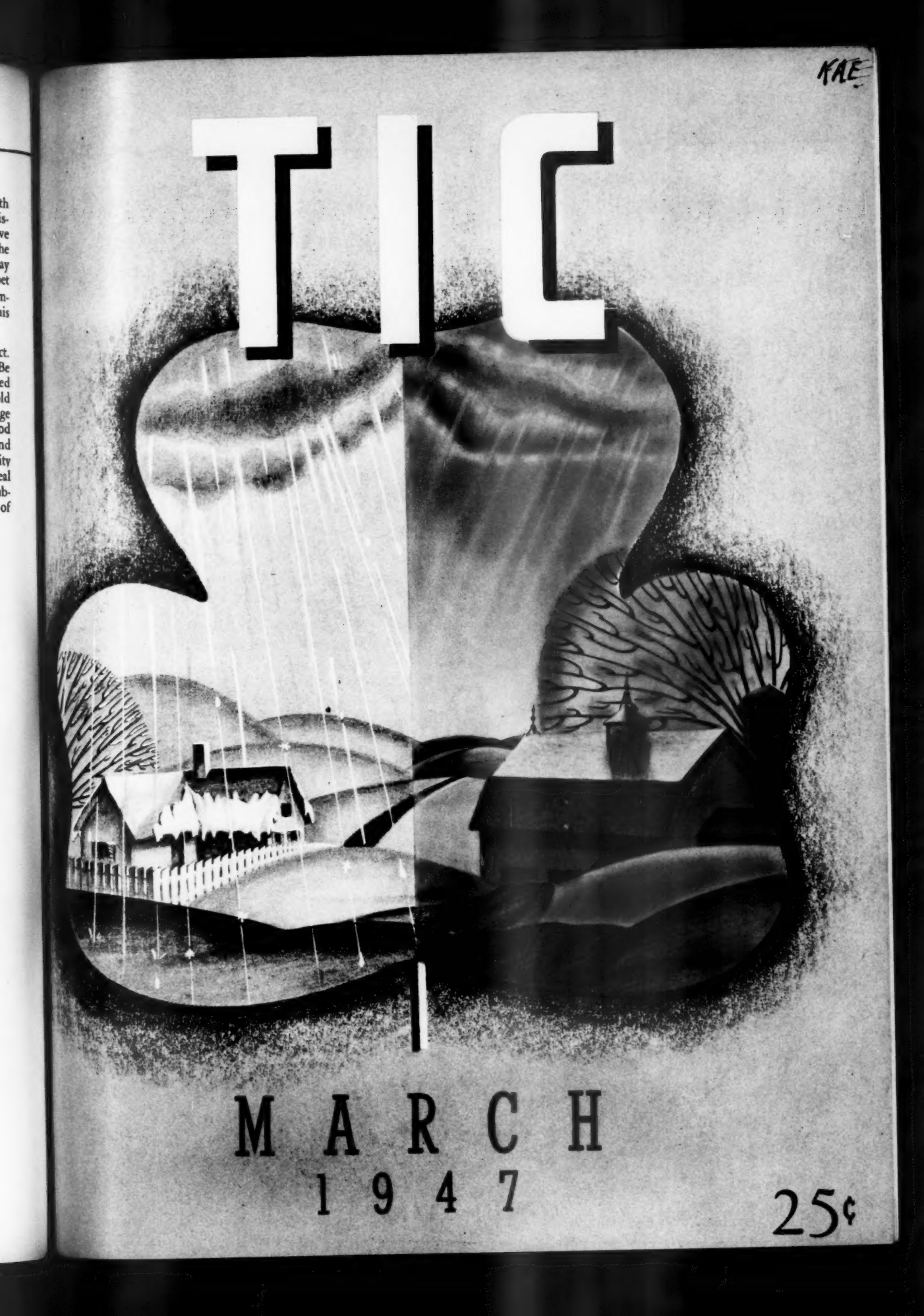

KAE
TIC
MARCH
1947
25¢

Tic MAGAZINE

IS SENT TO

You

WITH THE

COMPLIMENTS

OF

Editorial

DENTAL SOCIETY DUES

Did you ever study one of those charts showing the amount of dues paid by members of the various dental societies? Required dues in the various states run anywhere from $12.00 to $70.00 per year. How can you reconcile such differences? The answer is, you can't.

Show us a society with low dues and we will show you one that is doing little for its members. This type of society has poor leadership. They jump from a weak administration to a strong one and right back again to a weak one. The strong are never in office long enough to get anything done about dues.

It is shameful that so many organized groups of professional men are unwilling to foot the bill for a progressive program in dental education in behalf of their members and the public. Surely it is worth, at least, a dollar a week to be a dentist. A dentist who won't put that amount of money back into dentistry couldn't be much of a member. Organized dentistry nourishes his livelihood, provides protection against several hazards, presents advanced educational programs, stimulates pride in his profession, gives him the privilege of contributing to dental literature for posterity's sake, develops the desire for both economic and scientific success and aids greatly in his determination to avoid the humiliation of practicing failure—dentistry. Organized dentistry offers matchless fellowship; it is a fraternal order without secrets; it makes you a shareholder with guaranteed dividends and encourages your free voice in the conduct of its affairs. You can claim all of these gifts for your very own at the ridiculously low cost of one dollar per week. Nothing you buy in the market place can equal this value. Nothing makes a dentist so alive to his responsibilities to his family and the public. No single membership in any existing fraternity in the world can give the satisfaction of an active membership in your Dental Society.

Become active if you are a member. Join now if you are not.

JAMES ROBINSON, *Editor.*

MARCH TIC 1947

INDEX

Page

DENTAL SOCIETY DUES (Editorial)

James Robinson 1

MEDICAL AND DENTAL RELATIONS

B. B. McCollum, D.D.S. 3

THE DOCTOR WHO DEFEATS DEATH

Joseph George Strack 13

THE SHARP EXPLORER

Shirley Easley Webster, B.S., R.D.H. 14

March TIC 1947 • Published and Copyright, 1947 by TICONIUM, 413 North Pearl Street, Albany, N. Y., U. S. A.
Publisher's permission to reprint articles from TIC will be freely extended to any Publications.
Cover Design by John Schuster, Chicago, Printing by New England Printing & Lithographing Company, Incorporated
Edited by JAMES ROBINSON • 25c per copy, $2.50 per year • Printed in U.S.A.

Medical and Dental Relations*

By B. B. McCOLLUM, D.D.S.

*Read before the Section on Medical Relations at the Seventy-first Annual Midwinter Clinic of the Chicago Dental Society, Feb. 19, 1935. *Jour. A.D.A., Vol. 22, November, 1935*

THE PHYSICIAN

The "medicine man" is as old as humanity. No tribe or race has been without him. He has played an all important rôle in every phase of man's existance. Starting with plain voodooism, man has always been concerned with means to cure his ills. Quacks, fakirs, wizards and unscrupulous denizens of every sort have plied their trades, based on man's desire to enjoy health and protect himself from unfortunate circumstances.

Medicine as we know it today dates back a comparatively few years only. It is within the memory of living men that the empiric administration of drugs and the "horse sense" application of expedient measures dominated the practice of medicine. Science and logic have forced such an understanding of biologic facts that, within the last few decades, there have been going on rapid and in some instances revolutionary changes in the theory and practice of the healing arts.

During its evolution, medicine long retained its taint of witchery, superstition and the prejudices of false observation or lack of observation. Under the influence of science, witchery and superstition were the first to go, but many of the marks of prejudice still remain. Fads and fancies still prevail, and the glaring examples of medicine's shortcomings need no enumeration.

Many worthy ideas and practices have knocked at the door of medical intelligence, to find it locked and bolted. Admittance has been gained only by the persistent and repeated efforts of thinking men and women. So often, these efforts have been pitifully unappreciated. The individual, and, in some instances, the mass, nobility of the members of the medical profession is unexcelled in the history of mankind. But medicine's nobility consists largely of its martyrs.

THE DENTISTS

Dentistry knocked at the door of medicine about a hundred years ago and found the door locked and bolted. It is true that dentistry was advocated and practiced in the main by poorly educated and often unscrupulous persons, but so was medicine. Dental intelligence appealed to medical intelligence to be made a definite specialty of the medical schools, but it was rebuffed and compelled or allowed to form a separate profession.

Whether it was a good and necessary arrangement to have dentistry set up as a separate institution is a debatable subject, and much might be said for either

side. From the standpoint of the particular problems involved in the teaching and training of operators to administer dental remedies, there are good reasons for the present arrangement. But there is no logic nor intelligence in the fact that the lines of thought of the two professions do not run parallel on all questions of biologic comprehension.

In practice, the biotic usefulness of the teeth was and still is completely overlooked, or should I say ignored, by medicine. No consideration is given the functions of the mouth in the process of digestion. The function of mastication is treated as of no consequence or importance whatever. In this connection dentistry is found equally at fault, as will be discussed later.

DEFINITIONS

In order to discuss the relation of medicine and dentistry in a comprehensive way and make it easier to convey the thoughts herein presented, it is necessary to define some terms and phrases.

Dentistry is the art of maintaining the highest physiologic oral condition in human beings by using all available scientific processes. This interpretation is not a dictionary definition of dentistry, but do you not agree with me that it should be? This definition would dedicate dentistry to the task of maintaining the function of the mouth, and all dental effort would be primarily for the purpose of eradicating the pathologic processes affecting mastication.

Mastication is defined in the dictionary as chewing. But chewing is no simple act of mashing food. It is a complex physiologic process performed by a complex mechanism. This mechanism does not depend on brute force, but on an intricate physiologic coordination and cooperation of eight major muscles and two score minor ones that operate the mandible, the tongue, the cheeks and the lips in the various phases of mastication. The mandible is a single bone operated on two of the most complicated joints in the body.

The formation of the bolus takes place in a definite manner, it being wonderfully fashioned and controlled by the tongue, cheeks and lips. The cutting of the food in the normal relationship of the dental cusps and ridges is accomplished efficiently and without undue stress or strain on the teeth. The rolling between the teeth of the food to be comminuted follows a physiologic order. The salivary glands pour out their secretions in advantageous areas of the mouth. The mucin in the saliva produces a surface tension that holds the bolus together and assists in allowing the teeth to cut and recut the food into small particles. The teeth do not cut like knives, but by half cutting and half smashing, they husk the plant cells and expose their flavor to the tongue, and their contents to the action of the digestive ferments. An understanding of the physiologic functioning of the mouth cannot fail to excite the wonder and wholesome respect of any physician or dentist for the masticatory apparatus; nor can it fail to create in anyone the highest esteem for good dental effort.

The term "masticatory pathology" first used in 1931 in a paper entitled "Masticatory Function," according to this paper, designates "The sum total of the morbid conditions, processes, and results which affect or interfere with the function of mastication, either diminishing it or destroying it entirely, or any condition or disease which causes or allows the masticatory apparatus in functioning to injure or destroy itself." The phrase "masticatory pathology," in a broad sense, deals with any or all of the general or specific morbid conditions, processes or results that are in any way potentially or directly concerned in the course of diseases affecting the masticatory apparatus.

A clinical entity is a group of morbid conditions, effects and symptoms that forms a more or less definite unit for consideration in the diagnosis and treatment of health disorders. As defined, masticatory pathology deals with a composite of many separate and distinct conditions or diseases, but all of them have one thing in common; they affect the function of mastication. For the purpose of this discussion, they are considered under one head, as a clinical entity.

It is the intention in this paper to discuss masticatory function in such a way that its significance and importance will be more clearly defined. The pathologic processes affecting it are grouped under the term "Masticatory Pathology as a Clinical Entity."

MASTICATION AND METABOLISM

It has been stated many times in nearly every textbook on physiology, both medical and dental that the

function of mastication is essential to good digestion. This dictum has seemingly been accepted in an unconcerned way at its face value by dentists, physicians and the laity almost everywhere; but, like Mark Twain's weather, about all that has been done is to talk about it.

One has but to turn to the literature of both the medical and the dental field to be convinced of the poverty of thought or understanding of the mouth as an organ playing an indispensable rôle, or, for that matter, any important part in the process of metabolism. Physicians, with few exceptions, look on the mouth only as a source of infection, and not from the standpoint of its function. Many have not hesitated to destroy, or have destroyed, the chief function of the mouth without a thought of the consequence to the patient's welfare: and this in spite of the fact that textbooks on physiology state that mastication is necessary to good digestion.

The teeth are considered mostly from the standpoint of looks, and there is an attitude held by many that mastication could be dispensed with, on account of our present methods of cooking and preparing foods. I have heard it so argued by physicians and many dentists, even in dental society meetings. Cases have been cited wherein people have lived to a ripe old age without having had teeth for many years. However, there is scarcely a vital or important process or function in the body about which the same thing might not be said. People hang on to life and exist for many years with the most serious handicaps and deficiencies in their life processes. One of my friends had had an aortic aneurism larger than his heart for more than twenty-five years. He died at the age of 87, and was quite able to be about up to the time of his death. He lived to a ripe old age, but would we say that such an aneurism is not a serious thing, using him, or a hundred like him, as examples?

When we see the many and varied instances of the tenacity of life, we should be impressed with the possibilities of such a body without handicaps or deficiencies in any of the vital processes. The problem of health and life is answered only in how well we live, not in how long we exist.

In order to present the facts, as I see them, concerning the relation of dentistry to the health of the body, it seems necessary to speak frankly and bring to mind what to some may be irritating situations. I have no desire to offend, but I do keenly aspire to provoke thought, and stimulate understanding regarding the possibilities of developing in dental education a more biologic comprehension of what is involved in the administration of dental remedies. I earnestly request your thoughtful consideration.

ORIGIN OF DENTISTRY AND SURGERY

Unfortunately, dentistry started as a cosmetic utility, and not as a health service. Teeth were removed to relieve pain. They were preserved or replaced to improve the appearance.

The barbers were the original dentists and surgeons. They offered relief from pain by pulling teeth; they removed foreign bodies, such as thorns and splinters from the flesh, and assisted by applying bandages and dressings to wounds, and they did the blood-letting for the physicians. Their service was very crude, but it pointed the way to the development of two large professional groups that now minister to the needs of man in nearly every community.

Notwithstanding its lowly origin, general surgery today occupies a position among the learned and respected endeavors. The science and art of surgery are a passport to a listing among the educated and renowned. In other words, a surgeon is a great man if he is a great surgeon.

It is not amiss at this time to analyze the advancement made by surgery, especially since it is indebted to dentistry for the discovery of anesthesia, both general and local, without which surgery as it is today could not be. The basic reason for the surgeon's position lies in the fact that surgery is connected directly with the life and health of the patient. No matter how remote the connection may be, surgery is always considered a health service. This association is the direct result of the system of education under which surgery has evolved. The surgeon's technic and the mechanics of his art are paramount factors in his work, but at no time has his education allowed them to overshadow the fundamental biologic sciences. His knowledge, judgment and skill are the result of an education and train-

ing paralleling that of the physician in the matter of health problems.

BIOLOGIC CONCEPT OF SURGERY

Surgery is defined as that branch of the healing art which deals with injuries, deformities and morbid conditions that need to be remedied by operation or use of appliances. General surgery is largely devoted to removing diseased parts from the body. In order to justify their efforts biologically, surgeons have gone to great lengths to demonstrate how and why the body can get along without some of its parts, such as the tonsils, gallbladder, appendix or one of any of the organs of which we have two, and so on throughout the body.

Right or wrong, surgeons insist, and physicians concede, that the only risk in an appendectomy, tonsillectomy, cystectomy, etc., is the hazard of the operation. The theory of evolution is invoked to prove that such structures are vestigial remains of organs no longer necessary, and that the body can, and does, get along nicely without them. This attitude is necessary to uphold biologically a therapeutic procedure involving the removal of a part of the body for which no artificial compensation can be afforded. Perhaps the most enthusiastic surgical advocate would not insist on removing healthy vestigial organs; but such a radical attitude is closely approached in the surgical regard for the tonsils and the appendix.

We must bear in mind that surgical thought and procedures emanate from, and are a product of, the same school that produces the physician whose thought and procedure are based on a duty and a desire to keep and make the body whole. The apparent contradiction between the purposes of physicians and of surgeons is almost reconciled by their common health viewpoint. Surgery, in spite of its destructive operations, has nevertheless retained its fundamental connections with constructive health measures. Basically, the physician and the surgeon think in common terms. Whether you agree or disagree with the research efforts made by surgeons to defend and justify their operations biologically, you must admire their thorough and logical attempts at finding justification. The research and graduate work done in medicine is unexcelled in amount and diversification.

BREACH BETWEEN DENTISTS AND PHYSICIANS

An editorial in *The Journal*, 1928, page 2161, says "Medical men do not think in dental terms any more than dental men think in medical terms." I fear that this is a true statement of the relations between the physician and the dentist. The editorial, which is about "Endowments to Dentistry," states further, "It is of course necessary for the two to cooperate in the closest way for the treatment of disease, and that physicians and dentists consult each other in the management of ailments affecting the teeth and jaws." If they think in different terms, why or how, should or could, they consult? Could not their minds through education be made to meet in a common understanding with a basic thought medium to both professions? There must be something missing in the present educational connection of the two professions which allows such an unforgivable breach to exist in the relations of medicine and dentistry.

The special requirements in the fabrication and administration of dental remedies probably amply justify the separate set-up of dentistry as an independent institution. There are sound reasons that dentistry has not been and could not be taught, as surgery is, in a medical school. But there certainly is no valid reason that the two professions should be separated by a lack of ability to communicate and think about the one thing which they should have in common—the health problem. There is no reason that dentistry should not have as keen an interest in a biologic background for the service that it performs as the surgeon or the physician.

Of course, medical men cannot think in terms of dental technic. But why should they? A technic is only a means to an end—a road to a destination. As long as the main aim and purpose of dentistry is, apparently, to develop and perfect a system and scheme of ingenious methods and devices, the medical men and the laity cannot be expected to understand dentistry as a health service.

The general surgeon is proud of the mechanical devices and the digital dexterity that are involved in his operations, but, at all times, it is the result of the operations, the effect on the life and health of the patient, and not the technic involved, that counts.

Dentistry must find a way to insure a study of the physiology of the mouth that will relate its structures, functions and processes to the other parts of the body in true scientific fashion. When the biologic reason for administering dental remedies is established and biologically expressed, the cosmetic and technical aspects of dentistry will be relegated to the position that they should occupy, and medicine and dentistry will be on speaking and thinking terms.

DISEASES OF THE MOUTH

The more common diseases of the mouth manifest themselves mostly in or about the teeth. For that reason, too much attention has been focused on the individual tooth without due regard for the physiologic relation that the teeth bear to the mouth. The teeth are undoubtedly a most important part of the mouth. Without them, the mouth cannot perform its principal function—chewing. The teeth are really the *sine qua non* of the mouth.

THE TEETH

In order to discuss better the importance of the teeth, it might be well to draw a line of distinction between function and purpose. Function is defined as an act performed by a thing. Purpose is the use made of a thing. Therefore, let us say, the teeth have a purpose, not a function. The teeth do not function, the mouth functions with them. Mastication is the chief function of the mouth, and it uses the teeth for the purpose of performing that function.

The teeth are really a unit or battery of instruments or tools that the mouth uses to accomplish its part in the metabolic processes. Because the teeth occupy this relation to the mouth, they in purpose are to the mouth what the lens is to the eye. The eye cannot see without the lens, but the lens admits of substitution in whole or in part. Without teeth, the mouth cannot chew, but teeth can be substitued in whole or in part so that the mouth can be made to chew after the teeth are lost.

The relation of the teeth to the mouth, together with the ability of their structures to accept and benefit by the administration of substitutes for lost or for diseased tissues, is the condition that makes dentistry possible. The positive need of the mouth for a medium through which to perform its functions and the metabolic importance of this function well performed are the only conditions that make dentistry a possible health service.

Because the teeth can be replaced in whole or in part, the biotic significance of their purpose seems never to have been discovered. There seems to be no evidence that either dentistry or medicine has done anything by research or otherwise to establish the purpose of the teeth as vital or essential to the welfare of the body. As a consequence, dentistry has floundered around in its teaching methods and in the conduct of its practice, without a biologic foundation on which to build a health service.

Teeth can have but two purposes: chewing and enhancing the appearance of the individual. Looks are very important, but by no stretch of the imagination can the effort to preserve the looks of our patients be used to dignify the title doctor of dental surgery. Unless the teeth can be established as something more valuable than contributors to the good looks of the individual, there can be no definite health reason for preventing or regretting their loss.

ORAL PHYSIOLOGY AND PATHOLOGY

The future of medicine and dentistry demands a better understanding of the true biologic significance of the tissues and functions of the mouth in health and disease. The oral organ is subject to a greater number and variety of diseases than any other part of the body. Yet its physiology and the importance of its function is almost completely neglected.

As a source of infection, the mouth is well known, we might say too well known. But it was medicine and not dentistry that discovered it as such. It is unbelievable that dentistry could give to the world that priceless gift anesthesia, and then fail so utterly to analyze and recognize the biologic expressions of the small part of the body on which it works.

Medicine has never looked on the special senses as anything but conveniences, and perhaps rightly so. Our sight, hearing, smell, taste and touch serve us only to select our environment and food to the best advantage; and they contribute to the joy, comfort and ease

of living. The function of the organs of the special senses enter very little, if any, into the matabolic or health processes of the body.

The mouth harbors the sense of taste, but the real purpose and function of the mouth enters directly into life processes. The mouth is a part of the digestive tract, and, as such, is more than a hopper to receive and select the food that goes into the stomach.

Medical schools have a traditional aversion for the oral organ. This feeling, as far as we know, has always existed. It must have existed to a marked degree at the time of the organization of the first dental school. Medicine does not recognize the mouth as a part of its field, except as a source of infection, or as an index to diseases in other parts of the body. Medicine discerns no biologic necessity for the treatment of the mouth.

HUNTER'S MANIFESTO

When Hunter, after talking about it for twelve years, issued his famous manifesto in 1910 about American dentistry, which he bluntly called septic dentistry, he started a line of thought that divided the members of the medical and dental professions into three groups.

The first, probably most of them physicians, held the function of the mouth as of little or no consequence and found their disregard of mastication greatly stimulated. They felt, and, in many cases, said, "Why place a lot of restorations that cause all the damage pointed out by Hunter to replace something of no value anyway?"

Another group, probably most of them dentists, almost flew into a rage of high resentment. They censured Hunter, an Englishman, a physician, soundly for his temerity in venturing to criticize American dentistry.

The reaction from these two groups was twofold: The first caused a widespread wave of tooth extractions. After a little time to think it over, the resenting dentists issued a generalized condemnation of certain types of restorations. A gold shell crown, for instance, became a thing to shun just because it was a gold shell crown—not because it was badly fabricated. This and similar ideas spread to the public, and many gold shell crowns were removed to be replaced by other types of crowns as bad, or worse. Physicians then looked in the mouth and condemned teeth because of the type of restoration and not with any comprehension of the condition of the mouth. Little or no concern was given the integrity of the chewing function. The basic thought was elimination of infection.

THE DENTAL OUTLOOK OF TODAY

This therapy persists today. Patients are "cured" of systemic ills by the extraction of teeth, with no thought of the functional welfare of the mouth. Its future health and metabolic usefulness are completely ignored. There seems to be no concept of the fact that when the mouth is crippled by the removal of some of the teeth, even one, its physiologic organic unity is destroyed, and it is doomed to deterioration. To treat one disease and cause another is not good therapy. The health concept and therapeutic procedures which have followed the observations concerning the mouth as a source of infective foci have contributed little to the advancement of dentistry, except to call attention as did Hunter to the awful possibilities and probabilities of "bad dentistry." The sacrifice of teeth on the altar of health has in no small way retarded the progress and confused the development of dentistry as a health service. The metabolic value of the teeth has been "cheapened" in the minds of both the patient and the doctor, whether dentist or physician.

The mouth has a mechanical action to perform in chewing the food, just as the heart has a mechanical action to perform in pumping the blood. Both organs demand a proper relation of their parts in order to fulfill their physiologic usefulness without degeneration. A third very small group recognizes this physiologic concept of the mouth and acknowledges the truth of most of Hunter's statements. The members of this group see the systemic effects which he so dramatically presented, and they are deeply impressed by the conditions that he described, but they see the sick body from the standpoint of a failure in the care and physiologic concept of the mouth. They plainly recognize that the mouth, when neglected or maltreated, develops conditions that, in turn, react on other parts of the body. But, as their basic concern, they see the

mouth as a functioning organ of the body, the preservation of whose integrity would benefit and protect the body.

With good masticatory function as the basis of dental therapy, every restoration or dental effort of any kind must have the health and welfare of the mouth as its primary purpose. The preservation, the restoration, and, in some cases, the creation of the chewing function carry with them a biologic concept that compels the elimination of all pathologic conditions affecting mastication.

DENTAL DISEASE AS A CLINICAL ENTITY

The pathologic conditions of the masticatory apparatus that commonly confront the dentist for consideration and treatment are malformation, malposition or absence of teeth, caries or wearing of the teeth, pulp and periapical lesions, infections and inflammations of the periodontium and, strange to say, badly fabricated and applied dental restorations. Many of these morbid conditions are separate and distinct diseases, and they may and do appear in almost countless combinations.

These variously combined conditions that the dentist is called on to treat have one element so positively in common that they deserve to receive attention as a clinical entity by physician and dentist, especially the physician who is not required to differentiate sharply between them. The common element of these morbid conditions is their effect, either directly or potentially, on the function of mastication.

Dentistry is faced with two vital problems: First, there is the desire on the part of physicians, and many dentists, to show that the teeth are not necessary to a "healthy" patient. This attitude is demonstrated by the statement of the "cure" of patients by extracting their teeth. Most physicians, I believe, accept the idea that the patient is cured by extracting abscessed teeth. They do not differentiate between relief and cure. But why should they not believe the patient is cured? Dentistry has done no research to show the effects of having no teeth. The mouth is being studied, but, so far, workers have in effect ignored its function as a factor in the problem of metabolism.

The second problem is related to and is the outgrowth of the first. Caries is considered only as a symptom and not as a disease. The condition of the mouth is regarded as an index to the health of the rest of the body. To a certain extent, the condition of every organ in the body is an index to systemic disorders. The heart, the stomach, the liver, the kidneys, the lungs, all react to and are affected by diseases of which they are not the seat. If the heart is affected by disease in other parts of the body, the physician is surely concerned about the heart other than as an index. Why? Because he knows without a second thought the importance of the heart.

But what do we find in the case of the teeth? Physicians who make a specialty of metabolic and gland disorders are quick to use the teeth as an index to the metabolic or glandular conditions. But do we find them insisting that the highest oral function be maintained for their patients? I am afraid little or no attention is paid to the function of mastication. Observation shows that, even in metabolic clinics, the importance of the function of the mouth, chewing, is not only ignored, but also positively depreciated, if called to their attention.

It is well established that the presence of undeveloped, malformed, malposed or decayed teeth, together with certain inflammatory and infected conditions of the bones and soft tissues of the mouth, indicates serious derangement in the body mechanism. A dental biologic investigator has said, "Good teeth and good health go together." Quite true, but that statement was not made with any purpose of showing that the teeth contributed to good health. The basic concern of dentistry, and medicine, too, is the rôle the teeth play, not as indicators of, but as contributors to, good health.

Dentistry and medicine are equally at fault in their lack of mutual understanding of dental problems. The physician as overseer and keeper of our health has no moral or health right to neglect or ignore any part or function of the body. The dentist who has accepted the responsibility for the care and conditions of the mouth has no moral or health right to allow its function and biologic significance to be neglected. By biologic significance, I mean the rôle it plays in the process of life—not its status as an index or as a focus of infection. In the metabolic research being done by workers everywhere, the mouth is ignored,

except as an indicator. Its condition is considered only as a cause or a symptom of other diseases, and dentistry is allowing it to be so considered and ignored.

THE RESPONSIBILITY OF THE PHYSICIAN

The physiology and indications of health of the mouth should be as familiar to the physician, even though he does not treat its diseases, as the physiology and indications of health of the stomach, intestines, liver, pancreas, spleen, kidneys, heart, lungs, and any other organ of the body. The purpose of the technical procedures in dentistry should be definitely appreciated by the medical man, even though he has not the slightest idea of how they are done. If he does not appreciate dental effort, and refuses to consider it, it is dentistry's duty to make him understand.

Most of the diseases of the mouth are slow and subtle in their progress. Many of them cannot be treated by the administration of pills or lotions, but require the direct application of remedies to replace diseased or missing tissue. These directly applied remedies for carious, worn or missing teeth are not recognized in our books on dental therapeutics as remedies. The treatment for caries, the most prevalent human disease, is not accorded the consideration of a listing in the category of dental remedies. No wonder it is hard for the physician to understand.

DENTAL REMEDIES AND PHARMACY

Dental remedies, such as fillings, crowns and bridges, are difficult to produce and administer. This difficulty has overshadowed the purpose and nature of the remedies in many minds and has brought about much useless controversy regarding the relative merits of mechanical procedures to be used in producing remedies. In many ways, this has made dentistry appear more mechanical than remedial.

Pharmacy is an important branch of health service, but in no case has medicine allowed the pharmacy or fabrication of its remedies to overstep in any way its true relation to the physician.

Dentistry has not been so fortunate in this respect. Dentistry has been and, I believe, still is taught almost entirely from the standpoint of the pharmacy of its remedies. The "how to do" has transcended the "why and what to do." This is one condition that medicine, with all its own shortcomings, cannot tolerate or understand.

When dentists dignify in their own minds the application of a filling, in a tiny cavity in the tooth of a child, as the administration of a remedy to intercept the progress of a disease destroying or affecting untavorably an important function, they will have taken the first step toward an understanding with physicians of their mutual problems. The biologic reason for the remedies of the physician and the remedies of the dentist is identical in every way, and both medical and dental schools, though compelled to differ in technical procedures, must predicate their education on that fact.

The physician is constantly dealing with diseases demanding prompt or emergency attention, which run their courses quickly from the acute stage in one of three ways: recovery, chronicity or death. The slow subtle progress of dental disease probably has no counterpart in any other part of the body. The dentist must visualize, for himself and the physician, the fact that the tiny cavity in the tooth of a child may mean chronic invalidism at 45 or 50. The ultimate effect of the mutilation of the mouth by the loss of teeth comes on so slowly that it may completely escape attention. It must be made plain to physicians that a deformed or mutilated mouth destroys itself by its badly related parts, according to the same principle by which the heart is weakened and destroyed when its parts are so impared that it is forced to compensate for a lack of mechanical perfection.

Physicians are boasting, and justly so, of their efforts and successes in preventive medicine. General sanitation, hygiene, immunology, diet, endocrinology, etc., have worked wonders in many ways. Smallpox, malaria, typhoid fever, diphtheria, yellow fever and leprosy have been almost completely controlled. Developmental and growth disturbances have been greatly reduced. Even tuberculosis has been dethroned as the white man's plague.

But the degenerative diseases of middle life remain as the curse of mankind. The mouth has received its share of the blame for these degenerative diseases. If one-half the blame laid on the condition of the mouth

is deserved, the preventive and curative effects of the most simple dental remedies should no longer fail to attract the notice and appreciation that they deserve. The discoveries and statements of Rush, Hunter, Billings, Rosenow, Hayden and many others should find their answer in a unified recognition of masticatory pathologic conditions as clinical entities by physicians and dentists everywhere.

DENTISTRY AND SYSTEMIC ILLS

Benjamin Rush, as long ago as 1809, called attention to the systemic effects of oral lesions and advocated the extraction of teeth in the following language: "I am disposed to believe they (the teeth) are often the unsuspected causes of general and particularly nervous diseases. I cannot help thinking that our success in the treatment of all chronic diseases would be very much promoted by directing our inquiries into the state of the teeth in sick people and by advising their extraction in every case in which they are badly decayed."

Is it not a pity, and almost incredible, that the discovery that the morbid conditions of the mouth were a source of degenerative and infective diseases was not accompanied by the logical deduction that one way to prevent them is to forestall or intercept the oral lesions that create them? The care of the teeth is sometimes mentioned, but the purpose of the teeth is in no sense stressed in such a way that there is any real regret connected with their loss. The emphasis is all placed on the good effect of "curing" the body by ridding it of the offending teeth. The medical and surgical regard for the teeth closely approaches the attitude toward the tonsils and the appendix. I have never been able to understand why the writings of medical and dental essayists who discuss the relation of medicine and dentistry never mention the need for this basic preventive measure: the biologic care of the teeth.

A COMMON MEETING GROUND

Diagnosis is the connecting link between medicine and dentistry. It is on the basis of diagnosis that the dentist and physician have a definite meeting ground. It certainly is not the province of dentistry to invade the field of general medicine, but when the dentist sees a child, or an adult, suffering from caries or any other dental disorder, his knowledge of diagnosis should prompt him as to when to enlist the help of the physician. Dentists must realize that, in order to do this, dental diagnosis must mean more than counting and listing the cavities, more than determining the type or kind of material to fill them and a calculation of the probable cost.

Many dentists in recent years have attempted to become dietitians. Would they have so invaded the field of general medicine if their knowledge of the general principles of diagnosis had been sufficient to fortify them against such mistakes? The question of diet is such a small part of the systemic factors to be considered that physicians cannot fail to question the intelligence of such an attitude on the part of the dentist.

As dentists, we have the right to expect and demand that the physicians' knowledge of the general principles of diagnosis enable him to know when and where to refer his patients for dental treatment. The physician must recognize the connection between systemic diseases and specific ailments, such as dental disorders, and be able to enlist the aid of the dentist or other specialist to augment his general treatment. The converse of this rule is also true. If the patient sees the dentist first, the dentist should be able to know when and where to refer his patient for general or systemic treatment in order to augment his dental treatment.

A PROPER DENTAL CONCEPT

The practice of dentistry should be considered by medicine as more than a cosmetic luxury. Physicians should not believe that diseases affecting the teeth could be eradicated by removing the offending members if looks were not involved. It should be understood that the teeth are not vestigial appurtenances that can be neglected or discarded without serious consequences to the digestive mechanism. Biologic workers have amply demonstrated that normal growth and development, robust adulthood and favorable old age are dependent on the small and almost infinitesimal factors of our life processes, such as vitamins and endocrines. The many cases of general decline and ill-being of people who lack the chewing function and the apparent benefit conferred on them by the restora-

tion and maintenance of this function constitute a clinical argument that can hardly be denied.

Therefore, every factor contributing to the development and natural maintenance of the teeth and a healthy normal functioning of the mouth should be promoted to the fullest extent. But however important any and all such healthy promoting measures may be, the fact remains that the real problem, duty and purpose of the physician and dentist is the early recognition and successful interception of disease, thereby preventing the natural ravages and dire consequences of its untreated progress.

As so many, if not all, of the somatic ills attributed to the mouth could be so successfully intercepted by the proper and timely application of dental remedies, it seems self-evident that good dental treatment stands today as the most prominent and promising health measure of the healing arts. That famous "next great step in medicine" may be taken with seven league boots by the consideration and treatment of masticatory disease as a clinical entity. Dental education holds the answer. What will it be?

905 Professional Building,

1052 West 6th Street,

Los Angeles, California

★

It has been wisely pointed out that a man's age can be measured by the degree of pain he feels as he comes in contact with a new idea.

— *The Sun Dial*

Lack of contact means lack of understanding — often the lack of friendly association breeds suspicion, which in turn breeds fear and hate.

— *Sherman Rogers*

There is no "right to work" but there is a responsibility to work. We need to do some hard thinking about rights and responsibilities, for there cannot be a right without a responsibility nor a responsibility without a right.

— *McGill News*

The Doctor Who Defeats Death

By JOSEPH GEORGE STRACK

"We may now consider it the task of medical men to give active treatment for agonal and clinical death. Because the heart has stopped beating and breathing has ceased, we cannot end our struggle for life."

Thus speaks V. Negovsky, Moscow physician, who has established a unique reputation for reviving the dead. Negovsky went to the front during the war and experimented upon soldiers who were dying from their wounds. There he developed his sensational technique, a method he used particularly in cases where death suddenly followed excessive blood losses, in suffocation, in severe wounds of the limbs, and in collapse.

This is how he did it: Blood was warmed to approximately 100 degrees Fahrenheit, and adrenalin hydrochloride and a glucose solution were added. This mixture was then injected into an artery and vein of the arm. Immediately a strong contraction of the heart occurred, blood was sent in the opposite direction. Transfusion was continued in the vein, and usually coronary circulation was restored. Bellows were used to give 25-30 respirations a minute. This was then reduced to 16-20 respirations a minute. Even when natural breathing was restored, artificial respiration was continued intermittently.

In four months Negovsky treated 51 cases. In 34 of these his treatment preceded proposed surgical operation, and 31 of the cases treated were able to undergo that surgery. In 12 of the 51 cases his treatment produced a permanent effect in wounded men who had been regarded as hopeless. Having been revived by Negovsky, these 12 men were sent to hospitals behind the lines. In 37 other cases the treatment did not cause a permanent effect and death ensued. Five cases of clinical death recovered completely.

To understand the significance of Negovsky's methods it is necessary to know that he distinguishes between agonal death and clinical death, even though they are connected phases of the same process. Agonal death is described as "the active struggle of the dying organism." Clinical death occurs when the heart stops beating and breathing ceases. It is sometimes difficult to distinguish between agonal and clinical death because numerous factors are involved. Either form of death, however, is coincidental with the cessation of circulation in the brain. Reviving a person during agonal death is a much more easy task than resuscitating a person during clinical death.

There is a third and final form of death — biological death. Even Negovsky can't do anything about that.

353 State St.
Albany 6. N. Y.

The Sharp Explorer

By SHIRLEY EASLEY WEBSTER, B.S., R.D.H.

ANACHRONISM. We picked up a magazine the other day, one of the best dental journals we regret to say, and started to browse through an article entitled, "Can Dentistry Be Saved as a Profession"—idly supposing that we were about to read a denunciation of race bias or a plea for autonomy in the dental schools. But guess what the man said? No, you won't believe it—he says that all you have to do is abolish dental hygienists (or anybody else who is just hanging on the fringes of dentistry) and leave the oral cavity to the dentist . . . The logic was amazing and belongs in a museum. Now way back in the time when good Dr. Fones established his first training school for dental hygienists in Bridgeport, Conn., if someone had come out with a silly piece like that one would have said, "There's a fellow who wants to get a grievance off his chest." But in 1947—sakes alive! Can't you just see the modern overworked dentist if he had to do oral prophylaxis all day, teach his patients how to brush their teeth, and whizz through a few sets of full mouth X-rays during lunch hour?

And if you want to carry that logic (?) to its ultimate silly conclusion there wouldn't even *be* any dental profession if the medicos had decided to abolish the denticos a few generations back when a dentist was a barber of sorts who pulled teeth. And how about the nurses? Can you picture a doctor coming out with the statement that only a fully qualified physician should administer a pill or give a bed bath! Oh well, it takes all kinds . . .

THAT GIRL, ADA. In our early youth Ada was a slightly old-fashioned girls' name. For many years now the letters, according to our mind-set, have stood for the American Dental Association. Recently the alphabetizing of organizations has reached such a pitch that they can't even think up new combinations: we now have the Americans for Democratic Action calling themselves the ADA.

SWEETS TO THE SWEET. There's been so much research done on the relation of sugar to caries we often wonder how long it is going to take for the pediatricians to get abreast of science and stop recommending lollipops and what-not for the small fry. This nutrition prof we know in Philadelphia has three children of her own and she decided to raise them sans refined sweets. All went well until her mother-in-law took pity on the poor little things who (she *knew*) had a hankering for candy. So what happens? A nutrition experiment becomes a social problem. Page Dotty Dix!

MOOTRITION. And while on the subject of food habits, Stefansson the arctic explorer has just had a new book published called *Not By Bread Alone* (MacMillan Co., 1946) in which he states that all man's tooth decay stems from our agricultural civilization of the last few thousand years. The grain-and-vegetable eaters have always had cavities, he says, while peoples subsisting on meat alone (Eskimos) are the only tribes with a flawless dental record . . . Man became man by giving up bananas, climbing down from the trees and stalking his prey. Man, the hunter, adapted himself to eating meat over hundreds of thousands, maybe millions, of years. When he hit upon the idea of settling down and planting his food—which was where we thought civilization started—that's where our teeth started to go to pot. But don't rush out to the butcher shop for a side of beef, even if you can afford it. Stefansson goes on to say that a meat eating world could never support its population, there just isn't enough potential livestock.

AND VISIT YOUR DENTIST ETC. Baldness, they tell us, is tied up with those mysterious endocrine functions, is sex-linked, runs in families, even to the particular pattern—the thinning crown or the exaggerated widow (er's) peak. Anyway we know for a fact that lots of barbers are bald so all their lotions and notions must be of no avail. But when it comes to dentists neglecting their own grinding equipment—well, it's a good thing there aren't any statistics! . . . The University of Pennsylvania has recognized the typically human frailty that knowledge does not always lead to action, by establishing an oral hygiene program for dental students. It requires them to have their mouths in a "satisfactory state of health and function" before being able to qualify for a D.D.S. degree. Not a bad idea at all. We don't know whether the dental hygiene students have to follow along, but sincerely hope so.

TEN THOUSAND TIMES. There's a Dr. Lee out at Northwestern who claims, heaven help him, to have listened to or been exposed to 10,000 speeches in the last 10 years. We think he has the right, therefore, to make the following recommendation:

*"What about papers which report research to be read at learned meetings? They need not concern anyone too much because who even tried to listen to them. Someday an enterprising committee of some association not too bogged down by custom and not motivated by a desire to bring the delegates out of the halls and bars into the section rooms for some solid instruction will do something like this: print or mimeograph the papers ahead of time and send them on request to those who plan to attend. Then at the meeting each author will speak briefly telling what he did, what he found, and why it is important. The audience will then be given time for questions. The only trouble with this suggestion is that meeting-goers so conditioned to sitting through the drone of reading may rise in full gratitude to overwhelm the speakers. And that may be hard on the speakers." Hard or not, we think the man has something.

*Oral Hygiene, Jan. '47, p. 65.

DR. HILLENBRAND. The ADA has now caught up with the AMA in that its Journal is published twice a month. Changes in the Journal have been gradual but steady since Dr. Hillenbrand became editor. He will soon be relinquishing that post (to whom?) but it is our guess that the Journal will hold its ground and that Dr. Hillenbrand's influence as secretary will still be considerable.

FLUORINE. An interesting point in the fluorine research is the indication according to Hardgrove and Bull (ADA Journal, January 1, '47) that where fluorine is present in drinking water the economic level of the community does not count for so much as usual. Any hygienist who examines school children knows that there is a more or less definite correlation between the DMF and the average income of families in the neighborhood.

Benjamin Franklin Apts.
White Plains, New York

★

Wisdom is in knowing what to do next, skill is in knowing how to do it, and virtue is in doing it.

— David Starr George

Speaking about the feminine sex, remember that most women have a keen appreciation of humor; the more they are humored, the better they like it.

— Sheer Facts

The Ticonium case you get today was planned
a metallurgical laboratory fifteen years ago.

The characteristics that dental science prescrib
for the finest results in a dental prosthetic appl
ance were formulated and put into TICONIU
metal at that time.

It is the only chrome metal alloyed to perm
a low-heat processing technique similar to th
employed with gold.

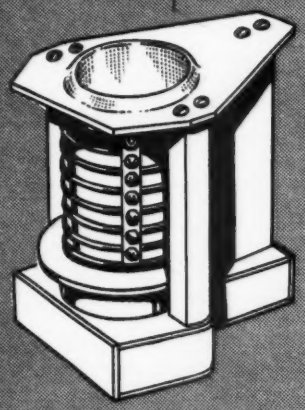
ACCURACY in casting that results in Ticoniu
minute precision.

LIGHTNESS in weight that means maximum com
fort for the patient.

STRENGTH that results in long service.

DUCTILITY that gives Ticonium its great adap
ability.

SATIN FINISH that insures lasting cleanliness.



LEPEL INDUCTION FURNACE

SPECIFY

TICONIUM